

The listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel claims 1-31 without prejudice. Please add new claims 32-46 as follows:

Listing of Claims:

Claims 1-31 (canceled).

Claim 32 (new): A method for predicting the pharmacological effect a drug candidate compound would have in a cell, tissue, or organ that expresses a protein, comprising:

- a) modulating, by somatic gene transfer, expression of the protein in host cells; and
- b) comparing the phenotype of the host cells in which expression of the protein has been modulated to the phenotype of control host cells in which expression of the protein has not been modulated,

wherein a difference in phenotype between the host cells in which expression of the protein has been modulated and the phenotype of control host cells in which expression of the protein has not been modulated predicts the pharmacological effect a drug candidate compound would have in a cell, tissue, or organ that expresses the protein.

Claim 33 (new): The method of claim 32, wherein the protein is a drug target protein.

Claim 34 (new): The method of claim 32, wherein the difference in phenotype between the host cells in which expression of the protein has been modulated and the phenotype of control host cells in which expression of the protein has not been modulated comprises an alteration in a function of the cells.

Claim 35 (new): The method of claim 32, wherein the difference in phenotype between the host cells in which expression of the protein has been modulated and the phenotype of control host cells in which expression of the protein has not been modulated comprises suppression of a function of the cells.

Claim 36 (new): The method of claim 32, wherein the difference in phenotype between the host cells in which expression of the protein has been modulated and the phenotype of control host cells in which expression of the protein has not been modulated comprises induction of a function of the cells.

Claim 37 (new): A method for identifying a protein as a potential drug target protein, comprising:

- a) modulating, by somatic gene transfer, expression of the protein in host cells; and
- b) comparing the phenotype of the host cells in which expression of the protein has been modulated to the phenotype of control host cells in which expression of the protein has not been modulated,

wherein a difference in phenotype between the host cells in which expression of the protein has been modulated and the phenotype of control host cells in which expression of the protein has not been modulated identifies the protein as a potential drug target protein.

Claim 38 (new): The method of claim 37, wherein expression of the protein is increased following the somatic gene transfer.

Claim 39 (new): The method of claim 38, wherein the increase in expression is achieved by operably linking a gene encoding the protein to an inducible or viral promoter.

Claim 40 (new): The method of claim 37, wherein expression of the protein is inhibited following the somatic gene transfer.

Claim 41 (new): The method of claim 40, wherein expression of the protein is inhibited by transfer of a gene truncated relative to a corresponding native gene.

Claim 42 (new): The method of claim 41, wherein the truncation is a contiguous or non-contiguous deletion of the transferred gene.

Claim 43 (new): The method of claim 42, wherein expression of the protein is inhibited by transfer of a gene encoding one or more amino acid substitutions relative to a corresponding native protein.

Claim 44 (new): The method of claim 37, wherein the protein is capable of specifically forming a binding complex with at least one other protein molecule.

Claim 45 (new): The method of claim 44, wherein expression of the protein is sufficient to produce a dominant negative mutation that reduces or blocks function of the binding complex.

Claim 46 (new): The method of claim 37, further comprising using the potential drug target protein in a standard drug discovery strategy.